TECHNICAL WORK MAY NOT BEGIN PRIOR TO CO APPROVAL

NASA/GODDARD SPACE FLIGHT CENTER

REQUEST FOR TASK PLAN / TASK ORDER

CONTRACTOR	CONTRACT NO./TASK NO. NAS5-	TASK NO.	AMENDMENT	JOB ORDER NUMBER	APPROP. FY
QSS Group, Inc.	99124	48		562-860-10-40-89	99

TASK TITLE: (NTE 80 characters; include Project name)

Radiation Effects Testing and Analysis Services

APPROVALS: (Type or print name and sign)

	DATE	ORG CODE	MAIL CODE	PHONE
ASSISTANT TECHNICAL REPRESENTATIVE (OR TASK MONITOR) Kenneth A. LaBel	4/27/99	562	562.1	301-286-9936
BRANCH HEAD Arthur S. Obenschain (acting)	6/14/99	CODE 562		PHONE 301-286-6616
CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (COTR) Robert S. Lebair, Jr.	6/14/99	CODE 568		PHONE 301-286-6382

FLIGHT HARDWARE, CRITICAL GSE OR SOFTWARE (IF YES, NEED CODE 303 CONCURRENCE NEXT BLOCK)	CONTRACTING OFFICER'S QUALITY REP.	DESIGNATED FAM:
[X] NO [ ] YES	Larry Moore	

The contractor shall identify and explain the reason for any deviations, exceptions, or conditional assumptions taken with respect to this Task Order or to any of the technical requirements of the Task Order Statement of Work and related specifications. The contractor shall complete and submit the required Reps and Certs.

(To be completed by Contracting Officer)
C.O. Requested Quote on:
Date: MAY - 3 1999

Contractor will develop specification or statement of work under this task for a future procurement. [X] NO [ ] YES

Flight hardware will be shipped to GSFC for testing prior to final delivery. [ ] NO [ ] YES [X] N/A

Government Furnished Property/Facilities: [ ] NO [X] YES -- SEE LIST OF GFP (offsite only) / FACILITIES (onsite only)

Onsite Performance: [ ] NO [X] YES If yes: [X] TOTAL [ ] PARTIAL
If partial, indicate onsite work in SOW by asterisk (*)

Surveillance Plan Attached: [X] NO [ ] YES

Highlighted Contract Clauses: *(to be completed by Contracting Officer)*

Per Clause H.14, Task Ordering Procedure, subparagraph (f), the effective date of this task order shall be May 3, 1999.

INCENTIVE FEE STRUCTURE (check one)
(See Contract NAS5-99124, Attachment K, Incentive Fee Plan)

	___ No. 1	___ No. 2	___ No. 3	___ No. 4	_X_ No. 5
Cost	10%	50%	25%	25%	20%
Schedule	15%	25%	25%	50%	40%
Technical	75%	25%	50%	25%	40%

(To be completed by Contracting Officer)

The target cost of this task order is $ 187,871.
The target fee of this task order is $ 691.
The total target cost and target fee of this task order as contemplated by the Incentive Fee clause of this contract is $ 188,562.

The maximum fee is $ 1,010.
The minimum fee is $0.

AUTHORIZED SIGNATURE:

THIS TASK ASSIGNMENT IS ISSUED ACCORDING TO THE CONTRACT CLAUSE "TASK ASSIGNMENTS AND REPORTS"

Lorrie L. Eakin — 10/13/99 — Lorrie L. Eakin, Contracting Officer

SIGNATURE OF CONTRACTING OFFICER — DATE — TYPED NAME OF CONTRACTING OFFICER

CONTRACTOR'S ACCEPTANCE:

AUTHORIZED SIGNATURE — DATE

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QSS Group, Inc.	99124	48	

Applicable paragraphs from contract Statement of Work: Function 2D8

STATEMENT OF WORK: (Continue on blank paper if additional space is required)

The requirement is to provide services to the Radiation Effects and Analysis (REA) Group of the Component Technologies and Radiation Effects Branch (Code 562). The radiation effects of concern are total ionizing dose (TID), displacement damage (DD), and single event effects (SEE).

The contractor shall provide services to the REA in the design and development of radiation test systems and radiation analyses as follows:

1. Design and development of test plans as well as test suite hardware and software compatible with existing VXI test equipment or with standalone capabilities for radiation effects testing in support of NASA flight projects and research efforts.
2. Performance of radiation effects tests. This includes detailed abilities to interface with facility equipment (hardware and software).
3. Provide services for determining radiation effects test levels (TID, SEE, or Displacement Damage) for tests as well as beam control capabilities at selected offsite facilities.
4. Reduce raw radiation test data and determine mission-specific and generic performance analyses of radiation effects test results. Develop test and application reports.
5. Determine mission-specific system-level impacts of radiation test results and make recommendations to designers..
6. Screen parts lists for radiation effects. Determine applicability to mission and make recommendations for alternatives, mitigation techniques, or for testing.
7. Develop test plans for research efforts in the area of emerging technologies such as photonics or for radiation issues such as damage or transient experiments.
8. Evaluate mission radiation risk assessment.
9. Develop technical assessments for radiation research monthly and quarterly reports.
10. Design and develop flight radiation experiments and provide services to support data analysis.

GFE is PCs and software tools for code development and website maintenance.
Performance of radiation tests may take place onsite (i.e., GSFC's Co-60 source) or offsite (i.e., Brookhaven National Labs or University of California at Davis). Radiation safety certification is required.

PERFORMANCE SPECIFICATIONS:

Analyses shall provide experiment/engineering background and full analysis of events observed during radiation experiments. Analyses for mission issues shall be in accordance with mission needs or as required by sponsor.

Test suite deliverables shall include documented and functioning test setups. Documentation shall be in accordance with industry standard practice.

APPLICABLE DOCUMENTS:
None.

TASK END DATE: 9/30/99

MILESTONES/DELIVERABLES AND DATES:

See Page 3.

PERFORMANCE STANDARDS:

Schedule: On-time delivery of the above
Technical: ATR's acceptance of the above

FINAL DELIVERY DESTINATION (NAME, BLDG, ROOM):

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MILESTONES/DELIVERABLES AND DATES:

Analysis of radiation experiments: 2 weeks following test completion
Radiation experiment setup development is from 2-6 months prior to test date.
Off-site radiation tests:

	Test	*Site*	*Date*
(1)	SEL testing of various microelectronics (GLAS)	Brookhaven National Labs	4/26/99-5/3/99
(2)	Proton experiments on optocouplers , linear devices and VCSELs	TRIUMF (Vancouver)	5/17/99-5/24/99
		TRIUMF dry-run	5/4/99
(3)	Proton experiments on optocouplers, linear devices, and VCSELS, plus electronics for SWIFT and GLAS	UC Davis	6/28/99-7/1/99
(4)	Heavy ion tests for GLAS, GPS, HST COS	Brookhaven National Lab	8/31/99
(5)	Proton experiments on linear, COTS, and optical devices	UC Davis	9/30/99
(6)	Proton experiments on linear,COTS, and optical devices	IUCF	9/30/99

Reports:
(1) Technical inputs to quarterly reports for Defense Threat Reduction Agency and NASA Electronic Parts and Packaging Program: Monthly informal reports
(2) Complete test report for TID DC-DC converter characterization: 6/15/99

Additional Hardware:	(1) RH21020 tester hardware	6/30/99
	(2) RH21020 tester fully integrated with software	8/9/99
	(3) Integrate 3-axis stage for TRIUMF test	5/15/99
	(4) Integrate 3-axis stage for UCDavis tests	6/15/99, 8/15/99
Test plans:	(1) ISSA Fluids and Combustion Facility	4/30/99 draft
	(2) ISSA Fluids and Combustion Facility	8/30/99 final
	(3) Provide linear transient test plan	6/15/99
	(4) Provide linear damage test plan	6/30/99
Proposals:	(1) Provide technical inputs to REA on ERC and CETDP proposals:	6/21/99, 815/99
Analyses:	(1) Provide optocoupler analysis for Landsat-7	5/15/99
	(2) Provide optocoupler analysis for FUSE	5/15/99
	(3) Provide optocoupler analysis for EOS-AM, PM, Chem	6/30/99
	(4) Provide optocoupler analysis for IMAGE	6/30/99
	(5) Complete GLAS and ICESAT parts list evals	5/15/99
	(6) Determine test requirements (GLAS/Icesat/GPS)	6/30/99
	(7) Provide weekly support to GLAS/Icesat/GPS	Weekly
Flight experiments:	(1) Provide telemetry and command interface definitions for REA STRV-1d experiments	6/30/99
	(2) Provide technical inputs on OTTI experiments	7/30/99
Miscellaneous:	(1) Coordinate microbeam experiments at SNL	5/17/99
	(2) Provide REA technical and logistic services at at IEEE NSREC	7/12-16/99
	(3) Provide REA technical and logistic services at at IEEE Radecs	9/13-17/1999